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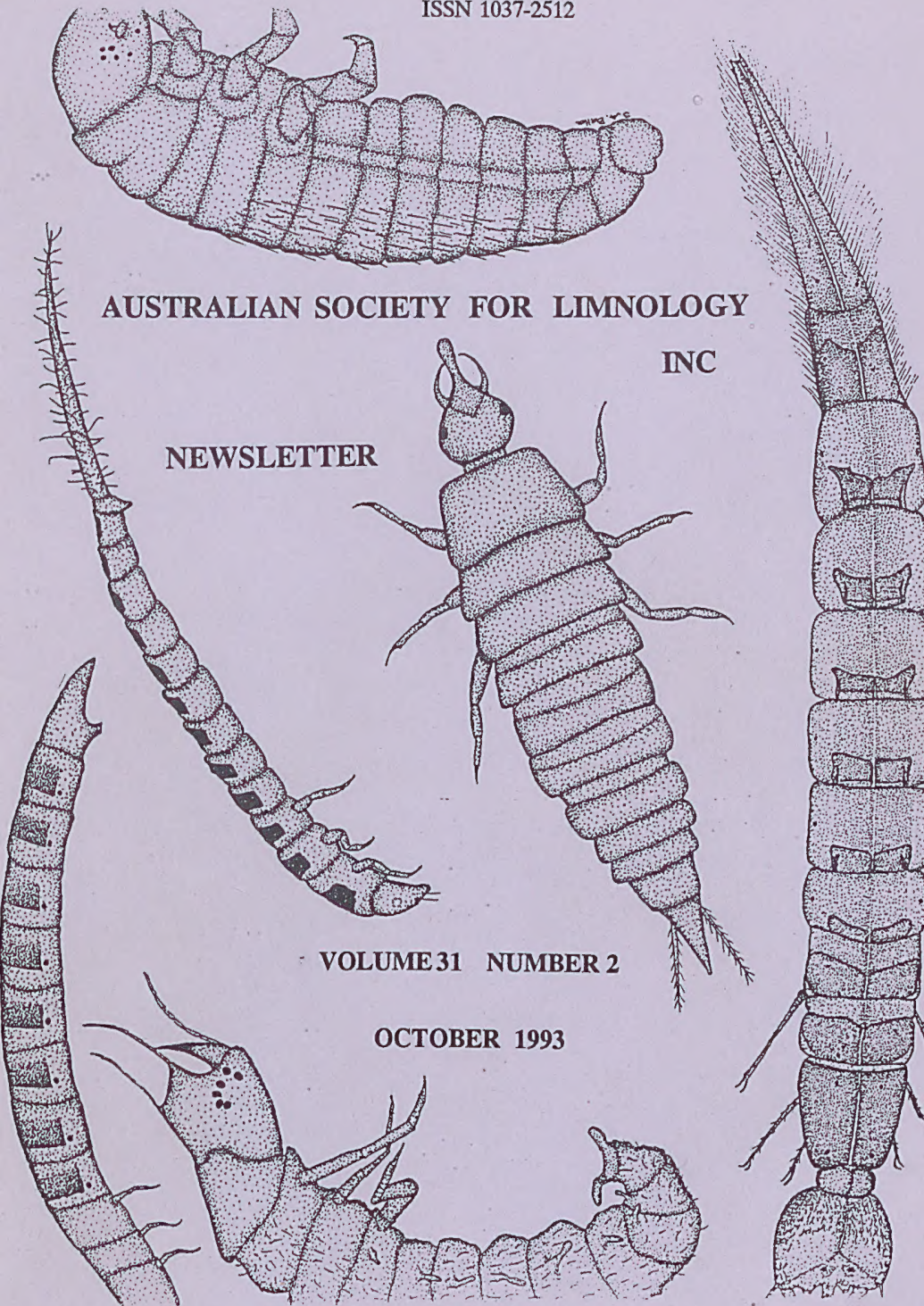

AUSTRALIAN SOCIETY FOR LIMNOLOGY INC

NEWSLETTER

VOLUME 31 NUMBER 2

OCTOBER 1993

MEMBERSHIP DETAILS

The Australian Society for Limnology Inc. (ASL) is an association of over 400 people with professional or amateur interests related to Australian inland waters. Since its inception in 1961, the society has played an important role in fostering limnology in this country. The ASL promotes liaison between limnologists in academic, government and private institutions and has a vested interest in the conservation of aquatic and related resources. Annual conferences are held near centres of limnological interest, and the programme includes scientific sessions, field excursions and social activities.

The ASL regularly produces a newsletter with notes on limnological activities, articles of general interest, book reviews and announcements of upcoming events likely to be of interest to members. Occasionally, it produces a Special Publication series and a Directory of Members.

Membership applications are welcome from any person with an interest in limnology. Five classes of subscribing membership are available:

Ordinary members	$ 30.00
Student members	$ 15.00
Life members	$250.00
Institutional members	$ 35.00
Sustaining members	Fees on application

Membership covers the period from 1 July to 30 June and all members receive the regular and occasional publications produced by the society. Members may also choose to receive the Australian Journal of Marine and Freshwater Science, the Australian Journal of Zoology and/or the Australian Journal of Botany at special reduced rates. The subscription for each journal is based on the calendar year in which the subscription is paid.

Enquiries relating to membership should be directed to the Membership Officer:

Mrs Margaret Hart
22 Netherby Avenue
MULGRAVE VIC 3170 Ph. (03) 5604406 [Fax (03) 5604406]

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Material for publication in the Super Christmas Bumper 1993 issue of the newsletter should be sent to the new editors (see editorial) before the end of November 1993.

Long articles should be forwarded to the editors as unformatted text, preferably on IBM-compatible discs, or as formatted text in any commonly used word processing package.

Cover: A more appropriate cover this time shows some more delightful artwork supplied by Shirley Balla - beat that for good taste, South Autralian editors!

Editorial

HERE AT LAST!!

Well, it's been a long time coming, but here finally is the next issue of the ASL Newsletter, the last produced by the current cabal of editors (see later). We must apologise for the lateness of this issue. As hinted at in the editorial of the last issue, the editors each entered periods of intense workload. While one editor was busy trying to provide advice on environmental issues to a Committee of Parliament in Victoria over the past 3 months (where he learned how to say "No Comment" with just the right amount of arrogance and fear - "how dare you ask me that question" mixed with "oh my god, they've found out"), the other editor was trying to deal with unruly students and unruly staff in Tasmania. Hence, there was little time to produce anything else, let alone a Newsletter.

However, the trials are now over and, apart from trying to find our desks under the mounting piles of paperwork that accumulate during periods of intense activity, we have found time to finish off this issue.

As you know, this is the last issue that the current editors will be able to produce. After searching the country for alternative editors, it seems that an offer has been made. Inspired by beer and pasta (or so they say), a collective in South Australia have decided that they are the ones to do the job. Even before the hangover subsided and the questioning "did we really volunteer to do that?" had faded from earshot, the offer was accepted and the new editorial staff from this issue on will be Kerri Muller, Marcus Cooling, Marcus Brownlow, Fran Sheldon, Stuart Blanch and Andrew Boulton. All material for the Newsletter can now be sent to Andrew Boulton at the Department of Zoology, University of Adelaide, Adelaide SA. Ph:(08) 2285565; FAX: (08) 2235817. We thank the collective (and that South Australian beer) for taking over what has, for us, been a most enjoyable experience.

Over the past few years, many individuals have contributed material to the Newsletter and its production. These are far too numerous to even try to list, so - you know who you are, and we thank you for your support. A special word should go to Sam and the crew at SAS Printing in Richmond, Melbourne, who, time after time, took the A4 pages that came off the printer, the photos with the fingerprints in the middle, and the tattered cut-outs from obscure French advertisements and put them together into a professional package. Also, the University of Tasmania and the Department of Conservation and Forests and Lands and Natural Resources and Environment (or something like that) for providing time, computing facilities and paper to produce the Newsletter (although at the time, I don't think they knew it!). So, farewell everyone, and thanks for all the fish.

SCUTTLEBUTT, RUMOUR AND PRATTLE

NEW SOUTH WALES

Correspondent: Geoff Smith, Botany Dept. University of New England, Armidale NSW 2351. Ph. 067-732324, Fax. 067-733283.

The Murray-Darling Freshwater Research Centre

from: Rhonda Sinclair and Paul Boon

A few items of gossip from the Albury laboratory. First, Russ Shiel has been invited to address the New Zealand Limnology Society meeting in May and has been awarded a SIL Travel Award to do so. The theme of the meeting is "Restoration of Aquatic Habitats". He will give an overview of the Centre's work on Ryan's billabongs, in the broader context of the relationship of the Murray-Darling floodplains to the parent river. Following the NZLS meeting, Russ will give seminars at Canterbury and Otago Universities on the South Island, and spend 8 weeks working (sic) with Dr John Green at Hamilton on the North Island, sponsored by the University of Waikato Academic Research Visitors Fund. Second, a few of us wandered off to that "sunny place for shady people", that hideous strip of crass commercialization between Tweed Heads and Noosa, for the 1993 ASL meeting. We had to scurry back to southern climes for some good weather, though. The number of people attending from Albury was perhaps lower than usual at ASL conferences: money and time were the culprits we guess. Third, Brian Sorrell has gone to the "Land of the Headless Thompson Gunner" (Denmark, for all those non-Warren Zevon fans) [just proves that MDFRC has always been the home of folk with good musical taste! - *Eds*] leaving gaps in vast and varied research projects. He seems to be enjoying his time there, although confesses to a fear and trepidation when it comes to lecturing in Danish. And methane continues to bubble rom the wetlands of north-eastern Victoria, keeping the world from entering a mini ice-age and my team (Paul Boon, Alison Mitchell and Colin Payne) in business. See elsewhere in the Newsletter that there will be a vacancy to join this illustrious team, funded by a LWRRDC grant. Last, some other new staff have joined the troops at Albury: Mr Mark Wood, and Mr Mark Fink, plus Mrs Cherryl Kolbe and Ms Christine Rees. Just doing our bit to reduce unemployment, but having Victoria across the river is like having a huge vacuum cleaner next door, sucking away all the good deeds we do. As Albury is to be the throbbing heart of the CRC for Freshwater Ecology, we should mention some associated bits and pieces to do with it. The said CRC, the Office of the Supervising Scientist and the Land and Water Resources Research and Development Corporation are convening a conference on Biological Assessment of Water Quality at the University of Canberra from 21 - 23 September. Following on from the

conference, a workshop will be held on biomonitoring approaches for use in the Alligator Rivers Region. Contact Richard Norris for additional information 06 - 201 2543.

Australian Water Technologies Science and Environment
(Formerly Sydney Water Board Scientific Services)
Stream Studies Section

Michelle Boyd, Dianne Flett and Debbie Rae returned refreshed and enthused from the Annual Congress. Michelle is finishing the write up of her ecological study of the sewage-impacted Nattai River while preparing for her forthcoming project on runoff from turf and vegetable farms and other potentially dodgy land uses in water supply catchments. Dianne and Amanda Kotlash are making the most of the partial respite from field work granted by current dry spell to review the suspended solids and nutrient results obtained so far from their base flow manual sampling and quick flow automatic sampling of the Wollondilly and Nattai Rivers. Algal growth potential studies on base flow samples are also about to start. Debbie has headed north again, this time for her Ph.D. graduation ceremony at JCU.

Meanwhile, Ian Wright is currently mounting another Blue Mountains invertebrate survey, taking his folding card table and chairs into more places where no card table has been before. Ian is being aided in his analysis of BM samples by new recruit Rod Hardwick, who is using his experience gained in the Alligator Rivers region and working with Peter Cranston to make inroads into our backlog of unprocessed chironomids. We are also looking forward keenly to the forthcoming arrival of Jane Growns.

Peter Swanson and Maria Marzella have completed a preliminary assessment of the performance of horizontal and vertical-flow gravel beds in polishing secondary effluent from the sewage treatment plant at North Katoomba. It seems that the beds are doing a good job of reducing suspended solids, BOD and bacteria, but are not doing much to the nutrient load. A disappointing feature of this project has been the poor growth of the Typha orientalis originally planted in the beds, and consequent overgrowth with weeds. This has resulted in marathon weeding working bees. One weeder was recently heard to remark to another that 'if we hadn't got into the same bed together, we wouldn't be in this mess.' Replanting with species native to the upper Blue Mountains is scheduled for next spring.

Bruce Chessman and Debbie Rae survived the trip to Hellgate Gorge, despite nettles, myriad leeches, thunderstorms which arrived right on dinner and packing up time, and Bruce falling off a rock while attempting to take a photo. Bruce recently attended a biodiversity workshop at Macquarie Uni, and came away with the realisation that in terms of numbers of species and taxonomic impediments, we aquatic invertebrate types probably have it easy in comparison with our terrestrial counterparts.

Botany Department, University of New England

Wetland seedlings continue to thrive in the UNE Botany Department, although mercifully only under glasshouse conditions..... Our main seedbank trial is currently being wound down for the winter, and we are in the process of drying out all the sediment samples for storage until next spring. Come September, they will be wet up again, and the race to germinate and to make Kevin Theodore and Delny Britton's lives a numerical Hell begins! The lull in plant activity has been eagerly awaited by all concerned, as it presents us with a chance to draw breath and to commit large amounts of data to disc.

Geoff Smith continues with his research at Mother of Ducks Lagoon. His field trials have been left high and dry by the (rapidly) retreating waters, but this has not deterred the stalwart researcher.....Debbie Blinman has almost completed her Honours year, and MIchelle Casanova - after escaping briefly to China for three weeks - bravely gets back to grips with charophytes and her PhD thesis. Dorothy Bell has set out to determine the germination requirements of various *Eleocharis* species, whilst Laurie O'Donnell continues with part-time research on macrophytes, water regime and farm dams. Various members of the Group presented papers at the last ASL meeting, and Margaret Brock ran a post-conference workshop on Armidale wetlands which was a success.

CSIRO Division of Water Resources Griffith Laboratory

At CSIRO Griffith, the pesticide project enters a new phase now that Linda Andersen-Carnahan has returned to US-EPA in Atlanta. In the six months she was here, Linda developed techniques for culturing Moina australiensis and experimental protocols for getting them to survive for 3 broods with 80% survival rate thus making them suitable for water quality bio-monitoring. However it seems the little critters are temperature controlled temperature environments. ELISA test kits for pesticides, and sensitive, so Linda's work will be continued by Sharryn Foster using this time its diuron, continue to be field-tested which keeps Martin Thomas busy in the field and Wolfgang Korth busy at the bench. Come in Vince ? Jane Roberts divides her time between working up the data generated by this summer's carp experiments, with the help of Alan Chick, and setting up a three-year leaf demography study on black box trees on Chowilla floodplains. In the constructed wetlands project, Alan Heritage while awaiting temporary transfer to the CRC on Waste Management and Pollution Control at UWS (Hawkesbury), is writing up Griffith trials and the effects of harvesting jointly with KP Sharma, previous Visiting Scientist, Ian Lantzke has returned to WA to write up on Phosphorus dynamics and Pino Pistillo is planning to propagate wetland plants in his retirement. Our local Suprema, Kath Bowmer, continues to whizz around meetings over the eastern continent at an astonishing rate but not even she could prevent the local airline Western from going broke.

Sydney Water Board Ocean Waste Water Management Technical Support Stormwater Projects Group

Jay Stricker and Naomi Ray are working on a wetland rehabilitation project. One job is to develop a Total Weed Strategy. Another is to refine control techniques of *Ludwigia peruviana*, a noxious aquatic weed. These include herbicide sprays (comparing selectivity; natives vs exotics), burning, water level manipulation and planting competitive native species. Another aquatic weed *Nymphaea mexicana* is being controlled by mechanically culling.

Jay is talking at an MFP workshop in Adelaide on the effects of building the MFP on the coastal mangrove and samphi environment - or how to manage the environment; and Naomi is giving a seminar at CSIRO Division of Water Resources, Griffith on 26th May about ecological indicators for predicting changes in wetland vegetation.

SOUTH AUSTRALIA

Engineering and Water Supply

Phil Suter and Peter Goonan are just finishing up the final draft of the wetlands report - more in the next issue. Denis Steffenson is off to a blue-green conference in Europe - otherwise, life continues as usual. Phil would like to remind folk that he is still keen on getting baetid material from anyone out there (dare I say, waiting with baetid breath?). [Beware - this is the sort of humour you could inherit if you let us become Editors...].

Chris Madden intermits his volleyball and home-brewing to enter the final stages of his work on chironomid mouthpart deformities. He recently helped Andrew Boulton go through a large number of slides of chironomid heads from the Flinders Ranges - he'll never offer again!!

Marcus Brownlow's bit:

"Here are the Botany Department gossipy bits for the ASL newsletter. I hope they arrive intact.

There is currently a flurry of activity in the Botany Department with new projects beginning, new students starting, and of course some old students still going! Anthony Koutoulis recently started a post-doc with George Ganf examining the potential of flow cytometry in the study of algal biomass and physiology. When he isn't overseas or

interstate, Anthony spends his time battling medical scientists for use of the IMVS flow-cytometer. He says that his education program for the medicos is well underway, with nearly half of them now able to spell A-L-G-A-E!

Wetland work is well in hand also, with Ph.D. students Marcus Brownlow and Marcus Cooling continuing the group tradition with work on Bool Lagoon. Marcus Cooling is examining the resource allocation patterns in Villaria reniformis. Sadly the River Torrens ducks are rather partial to Marcus' potted plants in the Botany ponds, and he is even now considering a change of emphasis to include feeding ecology of the Mallard! Stuart Blanch has migrated to the Murray, where his work on riverine water level fluctuations progresses with leaps and bounds.

Justin Brookes is completing his Honours work on gas vesicle collapse in cyanobacteria, and is very pleased to have had a paper accepted for publication in AJMFR on the use of applied pressure to separate blue-green algal taxa. Congratulations Justin - a paper written and accepted in your Honours year! Michelle Bald has just started Honours with George, and is primarily interested in the use of Triglochin procerum to treat waste water, and will use pond experiments to examine the influence of nutrient enrichment, flooding and harvesting on resource allocation. Good luck to both of them."

Other Zoology Gossip (Uni of Adelaide) Andrew Boulton

The SA Chapter of ASL has had two meetings so far - the first over pasta and red wine to discuss the "political agenda" of ASL and to introduce the new faces in the Zoology and Botany departments, and the second, over beer and more Italian food, to form a "collective" to help edit the ASL Newsletter. If there are no other offers out there, we are prepared to have a go rather than let the newsletter dwindle. So the collective consists of Kerri Muller, Marcus Cooling, Marcus Brownlow, Fran Sheldon, Stuart Blanch, Andrew Boulton, and any one else who happened to look interested and be in "The Mansions" some weeks ago. Items of interest can be forwarded to any of these people care of Botany for the first three folk and Zoology for the second three. Electronically, Andrew can be abused via aboulton@zoology.adelaide.edu.au [Phew, knew if we held out long enough, some-one would take it over. Just how many fatal decisions are made over red wine, eh? *Eds*]

Mike Geddes is the proud father many times over of some babies from a River Murray cray (we are still waiting for the cigars). Mike draws your attention to the yabby conference (details elsewhere in this newsletter) to be held in Glenelg. Bill Williams is presently down at the Coorong with the third year Freshwater Ecology students tripping the salt fantastic on the diverse lakes down there. Despite the professorial admin. that threatens to bury him regularly, he still manages to maintain the field work component of the course. Keith Walker recently gave a fascinating talk about his experiences with the

native carp fishery in China but we were concerned about his preoccupation with yaks and their by-products. Rumour has it that the River Murray Lab will be manafacturing yak products under a plain brown wrapper to fund further limnological research...

Andrew Boulton has just finished stream lectures to the Freshwater Ecology students and is now teaching in the Grad. Certificate Course to Biology Teachers. Having just spent three days in the Flinders Ranges helping his new Honours student Leanne Piller get started on a project examining the effects of tadpole grazing ("top-down") on production in streams and springs in the Flinders, he will embark on another trip there next week to do his normal sampling, before a few days on Kangaroo Island with the Biology Teachers sampling bugs from Rocky River.

Sam Wade has finalized his Ph.D proposal and will look at the effects of hyporheic and groundwater upwelling on algal and invertebrate distribution in the streams and springs in the Flinders Ranges. This builds on the Honours work by Peter Schulz who fould a distinct longitudinal gradient in nitrate concentrations along several springs in the northern Flinders. Sandra Grinter (Honours) is comparing River Redgum leaf breakdown rates at the nitrate rich-heads and nutrient-poor sinks of several of these springs.

Paul Boon was up for a week in late August to give some limno lectures, help Andrew plan an experiment on nitrification rates, and help Kerri and George write up Kerri's Honours work. A week was hardly time enough - and the schedule involved fewer winery visits than Paul would have liked. But it was great to have some dynamic insights and enthusiastic flag-waving for the microbes we try and overlook!

The River Murray Lab

Three new PhD students have taken over the old Zoology Department Museum and have filled it with field equipment and aquaria. Stuart Blanch, formerly from UNE, is studying the responses of water plants to water regimes in the River Murray. Aquatic macrophyte surveys were conducted prior to the early rise in river levels and will be resumed when the river falls in summer. Adrienne Burns, a former Honours student from the Botany Department, is investigating the ecology of periphyton in the lower Murray: abiotic and biotic controls and constraints. The project will focus on changes in gross community structure with respect to light availability (depth) and the relationship of such variation to the nutritional value and use of periphyton as a food resource. All the way from Italy, Lorenzo Vilizzi is planning to examine some relevant aspects of the ecology of the European Carp in the River Murray. Preliminary studies on age determination of larval and adult fish as well as the "shooting" phenomenon will be carried out in order to establish a sound basis for further research on this pest species. "Old" students, Fran and Jim, are writing their respective theses and are planning a jaunt to the Diamantina River

(Lake Eyre Basin) during November as part of a National Estate funded survey of the Diamantina floodplain that will include both terrestrial and watery things.

PAPUA NEW GUINEA

Correspondent: Ian Roderick, Environmental Department, Ok Tedi Mining Limited, PO Box 1, Tabubil, Western Province, P.N.G.

Well, its been some time since there's been any info from PNG on things aquatic or otherwise. After volunteering to keep you allup to date, I managed to miss the deadline for the June Newsletter [... don't worry Ian, I think we missed it too! *Eds*]. Mind you, as I haven't yet received the March issue newsletter, let alone the June one, I guess I've got a bit of an excuse. Any chance of having our copies sent by airmail? [Only if you send things on disk!! *Eds*]

Anyway, on with the news. The last 6 months have been fairly hectic as there has been much upheval within the Biology Section. Ross Smith started it all off by opting to relocate to Sydney to reaquaint himself with traffic jams, smog etc., having had enough of losing dozens of lures to crafty Barramundi and Black Bass! Then Jim Tait departed for Townsville (after having almost left a few months earlier), and Barre Kare soon joined the exodus, ostensibly to continue studies in Darwin, although I think he is now somewhere in Port Morseby. Kayeman Bakowa has also departed temporarily to undertake a Post-graduate Diploma at James Cook University. Andy Maie was left to keep the ship afloat with reduced staff numbers as well as coping with the responsibilities of the position of acting Senior Biologist.

I arrived in February from James Cook Uni and the Australian Centre for Tropical Freshwater Research, keen to continue on from where I had left off 2.5 years ago (I was up here as a consultant from the ACTFR in 1990). I was almost immediately whisked away in a helicopter to join a sampling trip on the Strickland River which had departed earlier in the week. As it was not possible to land anywhere near the boat, I was left twiddling my thumbs on the riverbank for 2 hours while the boat laboured its way upstream. This sets the scene for the rest of the trip. There were 6 of us in a boat with 3 small berths, the generator broke down which resulted in the food and fish samples in the freezer thawing out, we ran out of provisions, I had to intervene in an incident between one of my technicians and what seemed like most of the village of Obo, the boat broke down several times on the journey back up the Fly River to Kiunga, and to top it all off, I was once again reaquainted with net loads of Bony Bream - a rather inocuous fish in small numbers, but after spending hours removing hundreds from the nets, they assume

nightmarish proportions. Fortunately, subsequent field trips have been less eventful, but not without the occasional incident now and then (and also not without Bony Bream).

March saw us participate in a joint venture trip to the Fly River estuary with the Porega crew - an annual event. There has been an expansion of our monitoring program with the implementation of a pilt study to investigate the invertebrate fauna of the Off River Water Bodies of the Fly River, using artificial substrates. Lee Benson from the ACTFR spent 2 weeks up here, co-ordinating the initial stages of the project, and freaking out at the inverts which hang out in rainforest streams around Tabubil. Steve Comport, a new recruit to the freshwater scene, having previously leapt from tree to tree harassing small furry creatures, also joined us as a consultant from ACTFR to run the project from the PNG end. Back in Townsville, Lee gets to identify all of the invertebrates collected. There have been teething problems, with such dilemmas as how to find substrates which have disappeared under several metres of water, or been stolen by inquisitive locals. Steve also managed to to incur the wrath of some of the locals in one of the oxbow lakes - seems they didn't appreciate the noise that was being made in the pursuit of limnological excellence. They advanced in their dugout canoes in a threatening manner, causing Steve and Co. to opt for an indefinate colonisation period instead of retrieving the substrates as planned, and beat an undignified retreat!

Since his departure, Ross Smith has visited us a few times as a consultant from BHP Engineering, to assist with the preparation of the 1992 Annual Report (which I think was one of the reasons he left when he did!). Lucky fellow, there was lots to keep him busy! His last visit was to help ease our new Senior Biologist into the position which has been left vacant for nearly a year! Yes, Andrew Storey finally arrived from Perth in June where he had been modelling water bird usage of wetlands for the Department of Conservation and Land Management. he has now had a couple of months here learning the ropes, and of course I couldn't keep the joys of Bony Bream to myself now, could I? It's good to have him on the team at last. Speaking of new arrivals, we hope to have the Charles Tenakanai and his wife Minica Rau joining us in September to fill 2 Biologists positions. Charles is coming to us from the Department of Fisheries and Marine Resources in Port Moresby where his most recent tasks as Chief Biologist concerned the monitoring of the fish resources of the Torres Strait region, whilst Monica's field of expertise is in Mangrove ecology. She has been lecturer in Biology at UPNG for the last 2 years. We look forward to their arrival, especially me as Charles will inherit all the sampling programs which target Bony Bream! [... ever get the feeling that Ian might just be starting to form an unhealthy obsession for one species of fish - *Eds*].

Recent visitors to the Department have been Dr. Tim Flannery, Lester Seri and the ABC's Question of Survival film crew to film a segment on the Bulmer's Fruit Bat, which was screened recently. Perhaps I can persuade them to come back and do a doco on Bony Bream as well! Steve Richards from JCU and Greg Johnston from Flinders University

recently spent 3 weeks here investigating the frog communities around Tabubil and down the Fly River, with much success. Kayeman returned to spend his holidays at Obo conducting a study on the colonisation of artificial substrates by invertebrates for his Grad Diploma project. Zoe Rosser, a JCU PhD student, will shortly be spending a couple of weeks in Tabubil investigating disturbance in rainforest streams and its effect on invertebrat communities, and comparing them to North Queensland rainforest streams. I wonder if she'll be bringing all her bricks with her?

Well, that should have brought you up to spped with some of the recent goings on at Ok Tedi at least. Hopefully there'll be some other contributions for the next effort, which will undoubtably be smaller, as we'll be approaching panic mode by then - yep, it's nearly time for the Annual Report again and as the regular sampling program must go on, we'll probably have lost the plot by then.

WESTERN AUSTRALIA

Your correspondent is: Dr Mark Lund of the Joondalup Campus of the Enid Bly..., sorry Edith Cowan University.

At present my own research is floundering in a sea of students and lectures, although some fast swimming means that I am now contemplating what to do next. I hope to construct some mesocosms on the University to round off some of my PhD findings. Ian Davies is currently completing a Joint Achievement Project (University and Wanneroo City Council) on the **artificial wetlands** which abound the Joondalup area.

Edith Cowan University
(Pierre Horriblewitz)

At Edith Cowan University Pierre Horwitz continues to be a burden to Western Australian taxpayers, scientific colleagues and GIS software salespersons alike. He reserves his most severe abuse for campus planners and administrative staff who located his office adjacent to that of our eutrophic correspondent. His recent field trips to the southern forests to examine the **freshwater fauna of peatlands** (funded by the National Estate) have attracted interest from panel beaters and several frogs, and Kim Richardson ducks for cover whenever the phrase "gravel road" is mentioned. A field trip to Lake Toolibin late last year spawned a project on **salinity** and invertebrates, currently being pursued relentlessly by the equally relentless Rob Doupé. Pierre's project with Kim on microhabitat utilisation of invertebrates in Lake Jandabup is developing well. Meanwhile, the inaugural Honours student Darren Ryder continues to astound critics by being on time with essays etc. and is currently working up data (on **decay/decomposition** of *Baumea* and

Typha) for his thesis due very soon. Recent visitors welcomed to Edith Cowan include Shirley Balla who makes a point of harassing the kind, pleasant, charming, harmless, intelligent parking attendant Frank.

Water Authority of W.A.
(Shirley Balla)

Two more volumes of the Wetlands of the Swan Coastal Plain series have become available. Anyone interested in ordering a copy should contact Shirley Balla at the Water Authority of W.A., Groundwater & Environment, P.O. Box 100 Leederville W.A. 6007.

Wetlands of the Swan Coastal Plain Volume 4: The effects of altered water regimes on wetland plants by Froend, R.H., Farrell, R.C.C., Wilkins, C.F., Wilson, C.C. and McComb, A.J.

Wetlands of the Swan Coastal Plain Volume 7: Waterbird usage of wetlands of the Swan Coastal Plain by Storey, A.W., Vervest, R.M., Pearson, G.B. and Halse, S.A.

If you order 20 copies in the next 5 minutes you win a free set of steak knives.

Linda Moore has submitted her PhD entitled 'The modern microbialites of Lake Clifton, south-western Australia.

Two newcomers to the Environmental Management Section at the Water Authority are Piers Goodman and Paula Deegan.

Finally to quote Shirley's fax " Can't really think of anything else - theres lots just about to be finished, but it always pays to wait until it actually exists"

Centre for Water Research (University of W.A.)
(Caroline Wood)

Valdivia River Basin, Chile

Jörg Imberger and Greg Ivey recently visited Chile to learn first hand something about the water quality problems confronting the country. Dr Tom Berman, Director of the Kinneret Limnological Institute in Israel, joined Jörg and Greg in Santiago for a week-long visit to the Valdivia River Basin in the southern part of the country, about 700km south of Santiago. The visit was organised by Dr Herman Schwember of Sinergos Consultores, a consultancy firm based in Santiago with wide-ranging interests in a number of conservation areas in the country.

The Valdivia River Basin is typical of the basin systems in Chile. The basin is drained by several rivers with their origins in the Andes on the border between Chile and Argentina. The rivers flow west, through a series of large intermontaine lakes, emerging into a fertile basin and eventually converging into the Valdivia River. The river then flows into a salty estuary before finally draining into the Pacific - a distance of some 200km from the Argentine border. There is a variety of activity in the basin, including tourist developments in the lake district, extensive forestry activity throughout, pulp and paper mills, gold mining, agriculture, fishing and, as home to some one million people, residential development of which the city of Valdivia is the largest.

From a base in Valdivia, our time was divided between visiting various parts of this basin and meeting a number of people and organisations already active in the area. These included staff at the Universidad Austral in Valdivia, the University of Chile in Santiago, the Municipal authorities in Valdivia and the Ministry of Public Works. Due to the various activities in the basin, **water quality problems** include nutrient loading and phytoplankton blooms, turbidity and erosion problems from forestry, effects of fertilisers from agriculture, arsenic loading from mining, and pollution from the discharge of untreated sewage into the river system.

The visit enabled an identification of these various problems and development of strategies which could be implemented to deal with them. A proposal has been presented to the Chilean government, involving a cooperative approach which we hope to start in 1994 using the resources and capabilities of the Centre for Water Research, the Kinneret Limnological Institute, Synergos, the Universidad Austral and the local authorities in Valdivia.

Tasmanian reservoirs

John Patterson was recently invited to Tasmania by the Hydroelectricity Commission for an inspection of their latest Hydro reservoir, **Lake Burbury**, and some other sites. This Hydro plant was built as part of the replacement to the Franklin Dam agreed to by the Federal Government when the Franklin project was halted.

The new lake suffers from extreme oxygen depletion and is expected to do so for the next five or so years. The water is measured in kilowatt hours rather than megalitres in Tasmania, so the quality problems have nothing to do with the consumer. At low oxygen levels, a large amount of dissolved hydrogen sulphide gas is present in the outflow, which is taken from well within the hypolimnion, and this gas comes out of solution, at potentially dangerous levels, when the water reaches the power station. The water is released downstream to King River at a DO concentration of about 2 mg/litre and by the time it reaches MacQuarie Harbour, it is at about 4 mg/litre which results in fish deaths.

The King River supports no life at all as it has such low DO levels, and in addition receives water from the Queen River which is the recipient of the effluent from the copper processing plant, and is bright green. It is apparently released from the plant with a ph of about 2, so they add lime to bring it up to a (relatively) mildly acid ph of 4. This whole area is an environmental disaster, and includes the famous Queenstown lunar landscape, where local acid rain has destroyed all vegetation. Many of the smaller streams run yellow and green, and there seems little hope of regenerating anything approaching the original environment.

The HEC are interested in destratifying Lake Burbury to try to minimise the DO problems, and it is likely that CWR will do the design for the lake. Presently, the operators inject air at the power station by using pumps, but this is inefficient and expensive in terms of lost generating capacity and an aerator is the obvious answer. Another development further upstream, Lake Anthony, is presently being developed, and there is interest in doing some predictive stratification studies on that lake to see if the same problem arises.

Election to Academy Of Science

Jörg was recently elected as a Fellow to the Australian Academy of Science. He is now a Fellow of both the Australian Academy of Science and the Australian Academy of Technological Sciences, which makes him one of two people in Western Australia to be elected in both academies. A jolly good fellow!!!

Visit to Sarawak

Jörg was one of a group who officially visited Sarawak. The party headed by the Minister for Water Resources, Paul Omodei, included Dr Wally Cox - Managing Director, WAWA, Mr Colin Temby - Director, Engineering Services, WAWA, Allen Gale - Environmental Manager, Sinclair Knight, and John Kime from the Minister's office. The visit was a goodwill visit and for the exchange of information on the services and technology transfer that Western Australia can offer. The group also discussed the Sarawak Water Resources Master Plan.

Memorandum of Understanding

CWR, Sinclair Knight and Partners (SKP) and the Water Authority of Western Australia (WAWA) have signed a Memorandum of Understanding effective as of July 1, 1993. SKP, CWR and WAWA will pursue work of mutual interest and benefit in the area of environmental and water engineering. The intent of the Memorandum is to establish a long-term, collaborative working relationship between the three parties. Under the terms

of the agreement, duties of each party will be negotiated and agreed upon on a project by project basis. However, in a broad sense, responsibility of each party is as follows:

SKP will carry out project management, engineering design and documentation, contract documentation, construction supervision and marketing;

CWR will provide specialist technical input, process design and marketing support;

WAWA will provide operation and specialist technical input, along with a government to government relationship (where applicable) to provide marketing support.

The parties will make resources available as required for proposal preparation, client negotiation, instrumentation and construction. In addition, SKP, CWR and WAWA will endeavour to cooperate in the preparation and presentation of specialist professional training courses and seminars.

Water Quality Laboratory Opening

The Water Quality Laboratory was officially opened by the Minister for Employment, Education and Training, the Hon. Mr Kim Beazley, on July 29th.

Murdoch University
(Kerry Trayler and Jenny Davis)

Wetlands Group

The conference organisation is well under way and information should be sent out to all members in the near future. On that score Kerry and myself in the spirit of interuniversity cooperation are putting our rather sick minds to developing some interesting activities for the conference.

Fay Cheal returned to Murdoch again from another overseas (literally) trip sailing around the top end of Oz. She and Erica Fairhurst have started work on an **Illustrated Guide to Invertebrates** funded by the Urban Water Resources Association. Apart from the bugs and beasties guide Erica recieved a first class honours for her thesis entitled "The feeding ecology of fish in wetlands on the Swan Coastal Plain". Speaking of honours students, Phil Papas has started with Jenny looking at the effects of saline wedges on benthic fauna of the Swan River.

Jane Chambers and Nicola Fletcher have a grant from the National Landcare program in association with the Water Authority and Department of Agriculture. This is to investigate **nutrient assimilation by natural wetlands, agricultural drains and created wetlands** with

a view to recommending management options to reduce nutrient export from the northern Peel catchments. Meanwhile work at the RGC wetlands centre is now being focused on the propagation and establishment of submerged aquatic plants.

Finally whilst Kerry embarks on the field component of her PhD, Jane Latchford and Lorna Charlton have completed theirs and can now look forward to hours and hours of fun with their oculars.

Fisheries Group

Heads are down and tails up in the fish group whilst their illustrious leader, Ian Potter is absent in Europe [A likely story!! - *Eds*]. Dave Morgan has submitted his honours project on the **biology of Balston's Pygmy Perchlet** in D'entrecasteaux National Park and is now spending his time chasing the ever elusive lamprey. Both Dave and Erica (who spans the gap between fish and wetlands) are considering the merits or otherwise of Masters/PhD's which will probably be centred in the south west of the state. Dr Howard Gill is vying for position in the Pemby hut whilst examining aspects of the biology and ecology of larval *Galaxiella* sp.

Correspondant's Note: Finally apologies to all fellow W.A. researchers whom the correspondent failed to contact, he will endeavour to do better next time.

TASMANIA

Inland Fisheries Commission

From: Paul Humphries

The **instream flow** project has just completed its second field season and the winter will be spent crunching numbers and invertebrates. We have recently had a German hydrology student from Freiburg, Yves Muck, working with us on the phytoplankton and zooplankton of the large pools in the Macquarie River. We also received a visit from an instream flow wiz from the US, Dr Tom Payne of Tom Payne and Associated consultancy. All six foot eight of him was shown some of the sites of Hobart and we gave him a tour of some of our study reaches. Complimentary noises seemed to emanate from him at regular intervals, so we were reassured that major stuff-ups had been avoided. **Atrazine** has been in the news recently in Tas. Peter Davies has been on the phone almost constantly since a group of concerned residents protested about their drinking water. Seems that they didn't appreciate the Forestry Commission-Approved additives to their

water! The recent annual IFC open day on Mother's Day went off well. Several thousand visitors witnessed the inevitable trout-stripping and were treated to an impressive display of native fish and posters on current projects being undertaken by the IFC. Fishing regulations for the giant freshwater crayfish, *Astacopsis gouldi*, have just been changed. The bag limit has been reduced from 12 to 2 per day; no females will be allowed to be taken; the minimum size of males has been increased and several catchments have been set aside as no-fishing areas for the crayfish. These changes were welcomed by most of the crayfish I spoke to, especially the ones with girly bits! And lastly, our intrepid Commish, Wacka Fulton, took a well-earned holiday in northern regions and upon his return, bored us shitless with incredibly dull stories of the fish that all seemed to just elude his hook. While Wacka was away, Peter Davies attempted to fill the newly created yawning chasm. Alas, his bottom wasn't up to it!

University of Tasmania at Hobart

Department of Zoology

We have been rejoicing in an uncommonly mild winter, weather-wise at least. Belinda Robson continues to pursue **hapless grazers** across bedrock and boulders in streams near Hobart, and an uncommonly large amount of hardware in the form of mesh and tiles is now cluttering up the once beautiful Mountain River. David Oldmeadow and Leon Barmuta have just finished the last gasps of the LWRRDC-funded **near-bed flow** project. They rearranged substantial chunks of North-West Bay River (well, Dave did at least) and, just when Leon thought all was lost and his cherished hypotheses were in tatters, a hugely significant effect emerged. One day all this will get written up. Meantime Dave is being redeployed on an ARC-funded project looking at grazing interactions and whatnot, and will be having lots of fun watching some very expensive artificial stream channels get washed downstream, if what is happening outside my window at the moment continues for any longer. So much for the mild winter.

Martin Read has just started a Ph.D. with Leon Barmuta and Peter Davies working on the effects of different **willow management** strategies on instream fauna. Martin has just been offered a LWRRDC scholarship, one of only four offered this year. Well done, Martin. At the moment he is discovering the joys of Landcare politics and viewing the ravages of the famous Crab-Grab machine.

Niall Doran is another recent Ph.D. recruit. He is being supervised by David Ritz on a project examining the feasibility of **harvesting zooplankton from sewage lagoons** in Werribee, of all places. David Cartwright of Melbourne Water is also involved, and we here in the Zoology Department Dave just want you to know that when Niall water bombs you, we sympathise.

Roy Swain and Alastair Richardson have finished and seen published their report with Peter Serov entitled *An evaluation of the potential of litter bags for assessing the effect of forestry practices on stream processes*, funded by the Tasmanian Forest Research Council. Pester Roy if you would like a copy.

The latest crop of honours students includes David Crook (supervised by Robert White) investigating movements and habitat preferences of *Galaxias truttaceus*, Jackie Griggs and Anna Minchin (both supervised by Dave Ritz) who are chasing zooplankton in poo ponds, and Sharon Dowlan (supervised by Alastair Richardson) who is examining flow-related phenomena and crayfish.

Finally, a big welcome to Peter Davies, who has left Inland Fisheries and attached himself to our department as an honorary research fellow. No luck yet with being able to get him to stay still for long enough to find out what he's doing exactly. Stay tuned.

Department of Plant Science

Robert Walsh, who is jointly supervised by the departed Tyler and the still-present Richardson, has chewed the correspondent's ear about being ignored in previous editions. He is no longer ignored, but I can't find him to find out what he's doing. He's either chatting to Russ in Albury about **zooplankton**, charging around the landscape snaffling said helpless creatures from coastal lagoons, and at the moment seems to be in Canberra. Anyway, Robert is working on zooplankton and seems to have a lot of chydorids that are unknown to science. More later. Besides Robert, I have also failed to mention Michael Lychon, intrepid caver and pursuer of **heavy metals** in settling ponds on the west coast. Michael is doing his Ph.D. on the use of artificial wetlands for trapping nasties coming out of mines, and was last seen playing with a nice new machine that goes ping. Finally, congratulations to Gustav Hallegraf, he of the dinoflagellates, who has just been promoted.

Department of Geography and Enviromental Studies

Helen Hocking has just started a Ph.D. project jointly supervised by Peter MacQuillan (a terrestrial entomologist!) and the ubiquitous Peter Davies. Helen will be working on **biological monitoring and acid mine drainage** on the west coast and is busy chasing the elusive funds to make the necessary trips. She was last seen looking slightly terrified of the diversity of the bugs found in some of the "control" streams. Peter's group was also visited briefly by another Peter of a Cranston shape, who was down in Tasmania doing a spot of biodiversity sampling. This seems to involve running a nice long transect someplace in an exotic corner of Australia (north-east Tasmania this time), collecting lots of insects, and getting somebody in Canberra to pay for it. [So *that's* why he hasn't finished the chironomids yet - *Eds*]

TOWARDS A POLITICAL AGENDA FOR ASL

Leon Barmuta, University of Tasmania

Many members have grumbled over the past few years about how ASL tends to be silent or ignored over important, water-related issues in Australia. Indeed over the past 15 years (at least) many a President of ASL has lamented that the structure of ASL militates against rapid reaction to issues as they become "hot" news. ASL shares those problems with many other learned or scientific societies (such as ASPAB, ESA). Nevertheless it was clear from the discussion about FASTS at the AGM and from the subsequent Executive meeting that ASL does need to be more vocal, and more focussed in what we want out of politicians, bureaucrats, and the public. A simple-minded plea to "put more coins in" is unlikely to benefit anyone.

At the last executive meeting, we decided to do the following things:

1. Publish & distribute a directory of "experts"

Several executive members have been asked by media or government advisors about people with expertise on limnological issues that they can talk to. Conversely, some members have wanted to get more involved in public discussion. Since it is against ASL policy to give our our mailing list to just anyone, we shall ask people to volunteer to fill in the form enclosed in this newsletter volunteering their services. The returned forms will be assembled into a "list-of-experts" and distributed to members of the executive so that they can steer enquiries in the right direction. It will also help ASL itself in more direct lobbying exercises if we have an up-to-date list of "experts" to contact for rapid responses to issues. **Note that if you volunteer to participate in this directory that you would be speaking on behalf of yourself, not on behalf of the Australian Society for Limnology Inc.** We see this initiative as a service ASL can provide to members who want to further public debate about limnological issues on their own behalf. Before you sign on the dotted line, please ensure your participation does not conflict with any rules or regulations of your employer. By the same token, some organisations have their own media offices, and their staff can help you get in touch with the media.

2. Keep a "watching brief" on key limnological issues.

Contrary to popular belief, governments *are* spending money on limnological issues. It helps ASL be more credible if we acknowledge this and if we are more specific about what we want. Blanket calls for "more money for wetlands/museums/research please" are unlikely to solicit more than a polite acknowlegement letter from a delegated minion.

As a result, we are asking for volunteers who know what's going on with a particular issue of limnological interest to keep a "watching brief" on that issue so as to inform the executive about any action we should be taking. Some issues may involve several members, and we will try to co-ordinate folk with common interests into working groups. We hope that the watching brief groups would also report on good news too; ASL has been too lax about congratulating politicians and bureaucrats about the considerable gains and initiatives of the last few years.

3. A "shopping list" of issues

So that the ASL's view of limnology is not too skewed by the present executive or members of watching brief groups, we need to assemble a list of issues that members feel ASL should pursue or have some public profile on. A fledgling list was hatched at the first executive meeting after the congress in Queensland, and some local chapters have already discussed this list and made suggestions.

What happens to this list? It depends on the issue, and what feed back the executive gets about what are the most "popular" amongst members. Some issues may be non-controversial, and it would be easy to assemble a position paper or press statement or whatever and run with it. Other issues may form the beginnings of a "watching brief" group, and so this might be a good way of getting more people involved in *doing* something rather than just whingeing. Finally, there will be issues that will attract divergent views amongst the membership. If ASL is to take a position at all, then such views need to be discussed, not just in executive meetings but also in the newsletter, in local chapter meetings, or at the annual general meeting.

So here is the list such as it is: have your say either at a local chapter meeting or by bending the ear of your executive member. Your local executive member is listed near the back cover of this newsletter; they'd love to hear from you, especially if you want to become more actively involved. The topics are listed under three broad headings.

Water quantity and quality issues

Water allocation for environmental purposes.
Pollution of groundwater.
Point-source discharges to surface waters.
Salination.
Hydrological changes to surface waters (e.g. by river regulation) and groundwaters (e.g. by pumping).
Eutrophication and cyanobacteria.

Conservation issues

Endangered freshwater species.
Threats posed by exotic species (especially aquatic plants) and problems associated with translocation of native species.
Rehabilitation or restoration of degraded aquatic ecosystems.
Management and conservation of wetland sites listed under RAMSAR.
Loss of wetlands.

Funding and research initiatives

Biodiversity/taxonomy and support for parts of museums and herbaria responsible for doing this work.
Basic and/or long-term ecological research (there may be links here with the agenda of the Ecological Society of Australia).
Riparian zone research.
Climate change research: how should limnologists get involved?
Does funding for freshwater ecology "fall between the stools"? i.e. ecological research is not "applied enough" for state agencies, but not "pure" enough for outfits like ARC.

That's a fairly mixed bag. I won't pass any further comment apart from noting the favorites from two local chapter meetings. North Queensland's "top three" so far were in decreasing order: support for biodiversity & taxonomy, riparian zone research, and threats posed by exotic species, especially aquatic plants. South Australia's "top five" were: water allocation for environmental purposes, rehabilitation and restoration of degraded ecosystems, hydrological change, salination, and pollution of groundwater. We look forward to hearing from you via your executive members at our next executive phone conference in October/November. And don't just stick your hand up and "vote", suggest what you want ASL to *do* about it.

THE FRESHWATER IMPERATIVE INITIATIVE

By Ian Campbell, Monash University

At the North American Benthological meeting in Calgary in May a workshop was held on the The Freshwater Imperative (FWI). Since the issues being raised seemed to me to be of interest to limnologists beyond North America, I arranged to obtain a copy of the FWI draft "manifesto" which is presently being circulated for comment. I have suggested that, to be effective the FWI will have to be "internationalized" and that this may best be done through various limnology societies. Further information can be obtained through me (e-mail mirawara@ccs1.cc.monash.edu.au) or Penny Firth (e-mail pfirth@nsf.gov).

The Freshwater Imperative

Goals and Objectives:

The Freshwater Imperative (FWI) is an effort to achieve socioeconomic and environmental sustainability of inland aquatic systems worldwide. The near-term objective of the FWI is to promote interdisciplinary and institutional cooperation to address the issues and needs relating to our understanding of freshwater systems in the context of environmental change.

Critical Issues:

Freshwater is a strategic resource in a rapidly changing world. As the human population increases, more and more pressures will be placed on freshwater systems. Understanding the limits of the resistance and resilience of aquatic systems to human-generated pressures has become vital to societal stability. Freshwater problems integrate research challenges with human needs and they reflect the global urgency of many socioeconomic and environmental crises.

The FWI research agenda identifies the critical knowledge for sustaining inland waters: (1) predicting regional environmental changes resulting from alterations to the hydrologic regime, (2) understanding linkages between human activities and the maintenance of viable aquatic communities, (3) developing measures which allow reliable evaluation of human influences over broad spatial and temporal scales, and (4) providing a scientific infrastructure that allows for effective responses to emerging issues.

FWI Coalition:

The FWI is represented by a coalition of aquatic scientists from the Federal government, academia and the private sector. Within the Federal government an ad hoc Coordinating Council is comprised of individuals from nine Federal agencies: the Departments of Energy, Interior, Defense, and Agriculture; NASA; NOAA; EPA; NSF; and the TVA. Outside the Federal government, a small Steering Committee of academicians and resource managers coodinates communication with many of the aquatic science societies, cosortia and non-governmental organizations.

The FWI Coalition is working toward providing a predictive understanding of freshwater systems in order to achieve socioeconomic and environmental sustainability. A variety of activities in four parallel areas of emphasis are planned or have been initiated. These areas are Science, Information Management, Decision Makers's Needs, and Outreach.

FWI Strategy:

The FWI strategy is to 1) identify research and information needs with scientific significance, sociopolitical relevance, and pertinence to the requirements of decision makers; 2) pursue freshwater research to enable improved detection, assessment and prediction of environmental effects; and 3) provide research findings in a timely and appropriate form to enable responsible decision making in the areas of water conservation, management and policy. The fulfillment of this Strategy will require broad, cooperative institutional support, but it will provide a new paradigm for linking science, management and policy to societal needs for sustainable inland aquatic systems.

JOLLY AWARD TO KEITH WALKER

By Ian Campbell, Monash University.

The Hillary Jolly Award is the most prestigious award made by the Australian Society for Limnology, and is presented to those considered to have made an outstanding contribution to Australian Limnology.

The Award for 1993 has been made to Dr Keith Walker, of the University of Adelaide.

Keith began his academic career at Monash University where, supervised by Prof. W.D. Williams, he completed a PhD in 1971 on the energetics of Lake Werowrap, a saline volcanic lake in the Western District of Victoria. Following his Ph.D. Keith went to the University of Washington as a post-doctoral research associate before returning to Australia in 1972 as a Research Fellow in the Research School of Biological Sciences at ANU. In 1975 Keith was appointed a lecturer in the Zoology Department at the University of Adelaide.

Keith has made a significant contribution to Australian limnology through his teaching at both graduate and undergraduate levels, and through his early work on saline lakes. However his major contribution has been through the studies which he and his graduate students have carried out on the Murray River. This work has been of international significance contributing both to the small body of knowledge on the ecology of large rivers, and the even smaller body of knowledge of dryland rivers. Within Australia this work, including over 30 scientific papers so far, is a large and key component of the scientific information necessary if the Murray system is ever to be managed successfully.

Dr Keith Walker is a worthy recipient of the Jolly Award.

CHANGES TO THE CONSTITUTION

Two changes need to be made to ASL's current constitution. The first of these concerns the financial year the society currently operates with. At present the constitution states:

"9.Finance

The financial year of the Society shall cover the period from 1 May in any year to 30 April in the next ensuing year."

Given the fact that the society held its last two conferences (and thus AGMs) in April, and that next year's meeting will take place in February, the May to April year is inconvenient. The executive proposes that the calendar year would be more appropriate and that the following change should be made to section 9:

"The financial year of the Society shall cover the period 1 January in any year to 31 December of that year".

The second change relates to the fact that at present all scientific publications of the society are sent to financial members at no extra cost. The constitution states:

"7. Rights of Members

All financial members are entitled to receive current issues of the Society's newsletter, scientific and other publications free of charge, and to attend all general meetings of the Society."

The cost of publication and postage of special publications (the society's scientific publications) is now so high that the executive has decided that in future such publications should only be sent to those who order them, in an effort to cut total cost (it will be assumed that all institutional members will want copies). If this strategy does not cut costs sufficiently, then a small charge may have to be levied on each publication. To enable the executive to implement such a policy, the executive proposes that the following change be made to section 7:

"All financial members are entitled to receive current issues of the Society's newsletter and any other publications (except special publications) free of charge, and to attend all general meetings of the Society. Special publications will be available to members by order only. The executive will determine if a charge is to be made for these publications".

Please indicate whether or not you support these changes by ticking the appropriate responses on the ballot paper below, tear it out and send your completed ballot to:

R.Marchant
MOV, 71 Victoria Crescent
Abbotsford VIC 3067.

Do you agree with the proposed change to section 7 of the constitution:

YES

NO

Do you agree with the proposed change to section 9 of the constitution:

YES

NO

60 MINUTES

ASL Executive Teleconference, 25 March 1993

Meeting started at 4.30pm.

Present: R.Marchant, M.Hart, L.Barmuta, S.Bunn, B.Pusey, M.Barson, M.Brownlow, P.Humphries, J.Hawking, P.Boon.

1. Finances: M.Hart summarised the society's situation (see attatched statement). Money (approx $4000-6000) will probably have to be transferred from the ANZ trust account soon to cover some expenses. The latest newsletter (Vol 31, number 1) cost $5.00 per member (including postage); this issue was unusually large but if it continues to cost this amount then the yearly cost is $20.00 per member. As the annual financial statement will be drawn up at the end of March, the executive will wait until this is available before deciding on whether yearly subscriptions need to be increased.

2. Forthcoming congress: B.Pusey and S.Bunn stated that all was going well with 153 people registered so far for the meeting and 93 for the workshop that will preceed it. $9000 has been raised from state agencies and private companies to sponsor both the workshop and the congress.

3. Constitutional changes: R.Marchant explained the need to include in the society's constitution a category defining institutional membership, as this had inadvertently been neglected. The clause to be inserted was published in the latest newsletter and members will be asked to vote on it at the next AGM.

4. FASTS: S.Bunn had received material about the aquatic sciences group in FASTS from J.Middelton (AMSA), who is the group's representative. S.Bunn felt that despite a concerted attempt to get FASTS to lobby the federal government on the ASL's behalf little had been achieved. It was decided that a vote would be taken at the next AGM to determine whether the members wished to remain full membership of FASTS or revert to associate membership. The secretary would write to FASTS informing them that such a vote was about to be taken.

5. Student travel awards: R.Marchant informed the executive that 7 students had applied. Only 5 awards ($400 each) were made as two students were found to be ineligible since they had not been members for the requisite 6 months.

6. Victorian chapter of the ASL: R.StClair has expressed interest (via the newsletter) in restarting the meetings of this section of the society. R.Marchant suggested to her that Clunies Ross House on Royal Parade could be a suitable venue; it is used by a number of other scientific societies for meetings. This will be investigated by R.StClair.

7. Congress insurance: It was suggested that the society should take out public liability insurance for the duration of a congress. Although most congress venues would probably have such insurance, the concern arises when meetings are held in remote locations, or participants are taken on field trips. The secretary will seek a legal opinion on this matter.

8. P.Humphries suggested that a prize be given to encourage students to produce illustrations of aquatic biota. Such illustrations could be used on the cover of the newsletter. The prize would be awarded at the annual congress. He will make this suggestion to members at the forthcoming AGM.

9. L.Barmuta noted that the production of I.Lansbury's key to the aquatic Hemiptera was still stalled. This key was being produced by the Fauna of Tasmania Handbook Committee, but the ASL had offered $1000 in sponsorship to facilitate its production.

Meeting ended at 5.30pm.
R.Marchant, Secretary

ASL Executive Meeting, 14 April 1993, Marcoola Qld.

Present: P.Boon, S.Barson, T.Gerahty, L.Barmuta, R.Marchant, B.Pusey, S.Bunn, M.Hart, M.Brownlow, J.Harding, P.Humphries.

1. Special publications: as a result of the high cost of the last publication (no. 9) it was suggested that in future such publications should be pre-ordered via forms in the newsletter. Thus copies will only be sent to those who want them, resulting in fewer copies needing to be printed. Before such a stategy can be implemented, a change to the constitution will be needed since at present the constitution requires that all publications produced by the society be sent to all members.

2. Conference insurance: legal advice was sought by the secretary on this question. The simplest way to avoid insurance problems is to provide a disclaimer notice, which a participant has to sign, on the registration form. This notice could be as follows (based on one used by AMSA):

"The ASL does not assume any responsibilty for accidents, losses, thefts, damage, delays, or any changes to information in the registration brochure resulting from unforseen circumstances".

3. Drawing for Hemipteran key: a letter had been sent to Alistair Richardson from Sam Lake explaining that CSIRO wanted $800 for use of the drawing. L.Barmuta will investigate further.

4. Fees: after some discussion and explanation of the state of the society's finances it was decided to raise annual fees. The new fees are: $30 for ordinary members, $15 for students, $35 for institutional members and $250 for life members. At the same time there was discussion about the society's membership of FASTS and it was decided to recommend to the AGM that the ASL reduce its membership to that of an associate.

5. Changes to the constitution: apart from the change concerning institutional membership, which the forthcoming AGM is to vote on, two other changes are needed: one concerning delivery of ASL publications to members (see item 1 above); and one changing the financial year on which the society operates (currently 1 May to 30 April). These last two items will be voted on by a postal ballot to be held this year.

6. Financing of limnological workshops and conferences: an executive decision some years ago decided to provide assistance to groups (other than the ASL itself) who wished to organise such meetings. The only recipient so far has been Dr P. de Deckker who has organised an International Palaeolimnological meeting for this year in Canberra. In future such meetings sponsored by the ASL should be advertised in the newsletter.

R.Marchant, Secretary.

ASL Annual General Meeting, 16 April 1993, Marcoola QLD.

Meeting started at 4.00pm (p=proposed, s=seconded).

1. Adoption of agenda: passed (p=M.Barson, s=J.Harrison).

2. Apologies: K.Walker, R.Tilzey, J.Anderson, C.Heath, J.Koehn, L.Loyd, T.Hillman, W.Williams, J.Doolan

3. Acceptance of last AGM minutes: passed (p=R.Marchant, s=G.Closs).

4. Matters arising from last AGM minutes: the only query concerned ASL's bid to hold an SIL conference (in 2001). The bid was presented to the SIL board in Barcelona in 1992. I.Campbell (SIL national representative for Australia) replied that a decision had been deferred by the board for a year.

5. President's report: L.Barmuta thanked the organisers (AES, Griffith Uni.) and the sponsors (LWRRDC and others) of the conference. He then presented a brief report.

6. Secretary's report: R.Marchant outlined the small amount of correspondence with FASTS and the Minister for Science during the last year. Minutes of the two executive meetings held during the year had been or would be published in the newsletter.

7. Treasurer's report: M.Hart summarised the current membership: the society currently has 498 members consisting of 378 ordinary members, 75 student members, 25 institutional members and 20 life members. The society's financial statement (see below) was presented and explained. The treasurer emphasised the closeness between income and expenditure over the last year. (p=R.Marchant, s=G.Ganf).

8. Honorarium: an honorarium of $1000 for the treasurer was proposed and passed (p=R.Marchant, s=P.Cullen).

9. Auditor's report: this report (see below) was read out by the secretary and accepted (p=P.Cullen, s=T.Doeg).

10. Report of the special publications editor: S.Bunn noted that publication No.9 (key to adult Trichoptera) had been published during the year and that two more keys were being produced: keys to larval Trichoptera and to aquatic

cryptogams. One of these was likely to be published in the next year. The society had also offered to subsidise a key to the aquatic Hemiptera of Tasmania being produced in the Fauna of Tasmania series. Delays had occurred in the publication of this key and no money had yet been paid. (p=M.Barson, s= G.Ganf).

11. Newsletter editors' report: T.Doeg reported that both he and L.Barmuta felt it was time to appoint a new editor. Negotiations with various members were continuing but it would be some time before someone suitable was found. (p=R.Smith, s=P.Gerhke).

12. Jolly award report: I.Campbell announced that this year's award had gone to K.Walker. A full statement will be published in a forthcoming newsletter. (p=S.Bunn, s=J.Hawking).

13. Student award report: P.Boon, the chair of the award committee consisting of P.Humphries, P.Breen, J.Ferris, and J.Roberts, announced the following winners:

P.Gazey for best poster;
M.Denton for best oral presentation (honours student category);
M.Brownlow for best oral presentation (graduate student category).

(p=P.Cullen, s=M.Barson).

14. Student travel award report: R.Marchant reported that $400 had been given to the following students to enable them to attend the meeting and present papers: C.Madden, M.Brownlow, P.Ferrett, B.Robson, D.Morgan.

15. Door prize award: T.Doeg (unoffical chair of an anonymous group) gave a lengthy list of nominations. These will probably get mentioned in a future newsletter. The winners, however, were all the participants in the ironman race. (p=J.Tait, s= B.Pusey).

16. 33rd ASL congress: J.Davis has offered to run this in WA on Rottnest Island. The meeting will be held in early February 1994. More details will be published in the newsletter.

17. Future meetings: at this stage no proposals had been received.

18. Election of executive: the following were elected unopposed:

President - L.Barmuta (p=R.Marchant, s=P.Gerhke)

Vice president - P.Boon (p=F.Sheldon, s=J.Hawking)
Secretary - R.Marchant (p=L.Barmuta, s=S.Bunn)
Treasurer - M.Hart (p=L.Barmuta, s=R.Marchant)

State members

Vic - G.Closs (p=M.Douglas, s=J.Hawking)
NSW - M.Brock (p=L.Barmuta, s=J.Strickler)
QLD - P.Clayton (p=S.Bunn, s=I.Campbell)
NT - M.Douglas (p=G.Closs, s= S.Lake)
Tas - B.Robson (p=P.Humphries, s=P.Horwitz)
WA - M.Lund (p=J.Davis, s=P.Horwitz)
SA - A.Boulton (p=M.Brownlow, s=N.Rae)
ACT - M.Barson (p=L.Barmuta, s=P.Cullen).

19. Election of the auditors: Coster Calgut Pty Ltd were re-elected (p=M.Hart, s=R.Marchant).

20. Other business:

a) FASTS membership: the current exective recommended to the meeting that membership be reduced to that of an associate (10% of the current fee) since it appeared that society was not getting value for its money. There was much discussion on the value of FASTS to the society, during which it was pointed out that FASTS had been very successful in raising the profile of science in the minds of federal government politicians and bureaucrats. It was suggested that D.Widdup (executive director FASTS) be invited to an executive meeting to explain what role he saw FASTS playing in small societies such as the ASL. Finally it was proposed (J.Tait) and seconded (B.Hart) that: "ASL stays with FASTS for another year and, during this period, clarifies what it wants from them." This was carried unanimously.

b) Rise in annual subscriptions: it was proposed (R.Marchant) and seconded (P.Breen) that annual ASL fees should rise as follows: ordinary members - $25 to $30; student members - $12.50 to $15; institutional members - $30 to $35; life members - $200 to $250. This was carried unanimously.

c) Change to the constitution: R.Marchant proposed (s= L.Barmuta) an addition to the categories of membership to include institutional members, who are not specifically mentioned in the current version of the constitution. The proposed change was: "(4) Institutional members who shall be libraries and scientific institutes, who shall pay such annual subscriptions as shall be fixed from time to

time". The necessity for this change had been publicised in the last newsletter. The change was passed without dissent. Two other changes to the constitution are also required: one to vary the period of the society's financial year; and one to allow special publications of the society to be sent only to those members that request them, rather than to all members. The latter change should result in a lowering of the total cost of such publications. Both these changes will be advertised in the newsletter and a postal ballot of the members will be held.

d) AJMFR: A.Grant suggested that the society might consider paying the subscriptions to this journal for overseas limnologists who would otherwise not be able to afford it. There was some discussion of this. A.Grant agreed to send a list of potential recipients to the newsletter.

e) "Limnology in Australia": A.Grant informed the meeting that nearly all copies of this book had been sold and CSIRO was not planning another print run. She asked if there was any interest amongst members in producing a new book along the same lines i.e. a series of reviews on limnological topics relevant to Australia. There was some discussion and finally L.Barmuta asked that all suggestions and expressions of interest be channelled through him.

f) P.Humphries suggested that an award be given to a student for scientific illustration. Such an award would encourage taxonomic investigations by students and would provide material that might be used as a front cover for the newsletter. The award would be advertised in the newsletter and entries would be judged at the annual congress. It was decided after some debate that this initiative should be pursued by the executive.

The meeting closed at 6.00pm
R.Marchant, Secretary.

ASL executive meeting, 16 April 1993, Marcoola QLD.

Present: all members except M.Hart

1. Political lobbying: P.Cullen spoke to the executive about his experience in lobbying the federal government. He recommended that the ASL should have a prepared agenda of important limnological issues so that the society could respond readily to requests for ideas from bureaucrats or politicians. After some

discussion the following issues were noted: taxonomic problems and biodiversity, reference sites for long term research, water allocation for the environment, riparian zones, climate change, blue-green algae, RAMSAR sites, groundwater pollution, hydrological change, degraded aquatic systems, exotic and endangered species, ecosystem rehabilitation, wetland loss, ecological processes. L.Barmuta will follow up this proposal with some thoughts for the newsletter.

2. Newsletter: No substantial interest was shown by any member in taking over the editorship of the newsletter. It was felt that the headquaters of the new CRC in River Ecology would be an appropriate place for a new editor to be located; however, no firm commitments were made.

3. Special publications: S.Bunn said he was happy to see the next two publications to press, but that a new editor should then be sought.

4. FASTS: L.Barmuta will write to D.Widdup encouraging him to speak at an executive meeting. The executive needs FASTS to clarify whether it sees itself as primarily an agent for raising the profile of science in Canberra or whether it is more concerned with lobbying on behalf of specific issues and, if so, what aquatic ones will it pursue.

5. The executive was asked by R.Marchant, on behalf of M.Hart, to authorise the signing of 20 cheques. This was passed.

6. The secretary will send an amended constitution to all executive members before their next meeting. A teleconference will be held within the next few months.

R.Marchant, Secretary.

ASL Executive Meeting by Teleconfernce, 9 Sept 1993

Present: L.Barmuta, M.Barson, A.Boulton, P.Boon, P.Clayton, G.Closs, B.Robson, R.Marchant.

1. Finances: The secretary read out a balance sheet provided by the treasurer, who was unable to attend the meeting. The current balance in the ASL's working account is $2754. Since the conference in April the receipts have been $7203 and the payments $20833; most of the payments were for conference expenses. The trust account at the ANZ holds $36822.

2. Next Conference: This will be held in WA in February 1994, but no word has been received from the organisers and the executive member from WA was unable to attend the meeting. The secretary will ring J.Davis to determine the situation.

3. ASL's Political Agenda: The president circulated a letter before the meeting listing a number of environmental issues, which the executive had identified as important at the previous meeting. A couple of state members had been able to draw up priority lists of issues after consultation with local ASL members. From SA the priorities were: water allocation, rehabilitation of degraded waters, hydrological change, salinisation, pollution of groundwater; from QLD: biodiversity, riparian zones, wetland degradation, exotic species; from TAS: industrial discharges to rivers. A number of suggestions were made as to what should be the society's next step: the society should be seen as a clearing house for providing the names of those members willing to speak about these issues; those members willing to speak should be asked to provide a brief statement (couple of paragraphs) outlining the important points relevant to each issue; these statements should be published in the newsletter; members should also be identified who would be willing to keep a "watching brief" on certain issues; issues could be grouped under broad headings when the summary statments were published in the newsletter. After some more discussion it was decided that:

(a) the president would list the issues (from his letter) in the newsletter and ask for feedback;

(b) the secretary would prepare a liftout for the newsletter in which members would be asked to indicate their expertise and willingness to speak on various issues; the secretary would co-ordinate the responses;

(c) the president would also, via the newsletter, ask for the names of members who would be willing to keep watching briefs on certain topics.

4. The membership officer/treasurer and newsletter editors: These positions will become vacant soon but no members have offerred to take on these duties. It was suggested that some of these functions could be done professionally. Thus the society may have to employ someone (or some company) to keep the membership lists, send out the subscription notices and do the banking. Editorship tasks such as collation of contributions, layout of an issue, arranging printing and postage of an issue could be done by a professional editor or desk-top publishing service. The secretary will make enquiries.

5. Barrung land care group (Qld): The society has received a request from this group for a $200 donation to enable them to run a workshop on river management. The executive felt this was a worthy cause and agreed to send

them such a donation. The secretary will write asking them to provide a report on their workshop that can be inserted in the newsletter.

6. The next executive meeting (by teleconference) will be held in November.

Notice for the newsletter

If you have expertise in any of the environmental issues outlined by the president (and are willing to act as a spokesperson for the society on these issues) please would you send your name, address, telephone and fax numbers, and area of expertise to the secretary:

Dr Richard Marchant
Dept Invertebrate Survey
MOV
71 Victoria Crescent
Abbotsford VIC 3067

The secretary will collate these details and will act as a clearing house providing names of experts to those who request them.

AUSTRALIAN SOCIETY FOR LIMNOLOGY
STATEMENT OF RECEIPTS AND PAYMENTS YEAR ENDED 31 MARCH 1993

GENERAL BANK ACCOUNT	1992/93	1991/92
Opening Bank Balance	$12,854.83	$ 7,895.88
RECEIPTS		
AIDAB/New Scientist	-	840.00
ASL Book	280.00	-
Australian Taxation Office Refund	1,215.35	-
Bank Interest	364.09	482.70
Congress - 1992	18,639.72	27,535.50
Congress - 1993 to Date	14,862.50	-
CSIRO Journals	4,440.00	4,515.00
Publication Inserts	600.00	76.10
Special Publications	570.00	-
Subscriptions - Members	8,097.14	8,762.63
- Students	747.50	722.50
- Institutions	335.00	775.00
- Life	1,000.00	-
Transfer from Investment Accounts	-	4,000.00
TOTAL	$51,151.30	$47,709.43
PAYMENTS		
Audit Fees	550.00	330.00
Bank Charges	51.41	272.93
Congress - 1992	16,988.73	24,884.45
Congress - 1993 to Date	2,871.72	-
CSIRO Journals	4,665.00	4,540.00
CSIRO "Limnology in Australia in 1987"	4,000.00	-
Honorarium	1,000.00	1,000.00
Insurance - Computer	164.54	163.13
International Conference	2,000.00	-
Jolly Award	250.00	250.00
Miscellaneous	-	25.50
Newsletter/Bulletin/Teleconference	4,687.90	5,251.33
Petty Cash	150.00	100.00
Special Publications	5,576.75	-
Stationery/Printing/Office Supplies/Postage	723.52	2,323.68
Student Congress Awards	300.00	50.00
Student Travel Subsidy	2,000.00	890.00
Subscriptions - F A S T S	1,652.80	2,137.00
Travel Expenses	-	532.46
TOTAL	$47,632.37	$42,750.48
Closing Bank Balance	$16,373.76	$12,854.83

INVESTMENT ACCOUNTS

	ANZ Trustees Common Fund V2 Plus	ANZ Trustees Common Fund V2	ANZ Term Deposit	NAB Dep at Call
Opening Balance	-	33,632.02	930.30	4,337.92
Net Int Received	928.15	478.09	33.13	130.00
Net Bank Transfers	35,073.54	(34,110.11)	(963.43)	-
Closing Balance	36,001.69	-	-	4,467.92

CALL FOR JOLLY AWARD NOMINATIONS

The Jolly Award commemorates Hilary Jolly, a founding member of the Australian Society for Limnology and is presented to a person who in the opinion of the Society, has made an outstanding contribution to Australian limnology. The Jolly Award has become the Society's most prestigious prize. considered by members to indicate overall scientific excellence and outstanding achievement.

The regulations concerning the structure and function of the Jolly Award committee, and covering the nominations of persons for the Jolly Award appeared in recent editions of the Newsletter. In brief, any person may be nominated by a financial member of the ASL. Nominations must be seconded and include a brief supporting statement and the nominee's current CV. Each nomination remains valid for three years, after which the nominee can be renominated.

Nominations for the 1994 Award are now called for and should be forwarded as soon as possible to:

Dr. I. C. Campbell, Department of Ecology and Evolutionary Biology, Monash University, Caulfield Campus, P.O. Box 197, Caulfield East, Vic. 3145. (Fax (03) 211 3646)

STUDENT TRAVEL AWARDS

Applications are invited from research students for travel assistance to attend and present a paper at the Annual Congress of the Australian Society for Limnology to be held on Rottnest Island in January/February 1994 (details will be sent seperately). The purpose of this assistance is to encourage students to present the results of their work in public. Students who are carrying out research in any branch of limnology for a higher degree are encouraged to apply. The following rules apply to this assistance:

1. Applicants must be full-time postgraduate students at any Australian University, College of Advanced Education or Institute of Technology. There is no age limitation. Applicants must have been current financial members of the ASL for at least 6 months.

2. Assistance will be granted on the recommendation of a panel of three appointed by the Society.

3. Applications must include a written statement of no more than 2000 words describing the research, its significance and the stage that has been reached. This statement must be endorsed by the student's supervisor. An abstract of the paper that applicant proposes to present must also be included.

4. Award of assistance will be judged on: (i) significance of the work; (ii) originality and soundness of the research; (iii) the progress made and whether the stage has been reached where something useful can be presented; (iv) ability to present a clear and concise statement of the study.

5. Applications must be lodged with Dr Jenny Davis, School of Biological and Environmental Science, Murdoch University, South Street, Murdoch WA 3150 as soon as possible.

STUDENT PRIZES AT THE 1994 CONGRESS

There will be three student prizes of books (chosen by the recipient) to the value of $100. The prizes are:

1. Prize for the best oral presentation by a Ph.D. or Masters student.

2. Prize for the best poster presentation by a student.

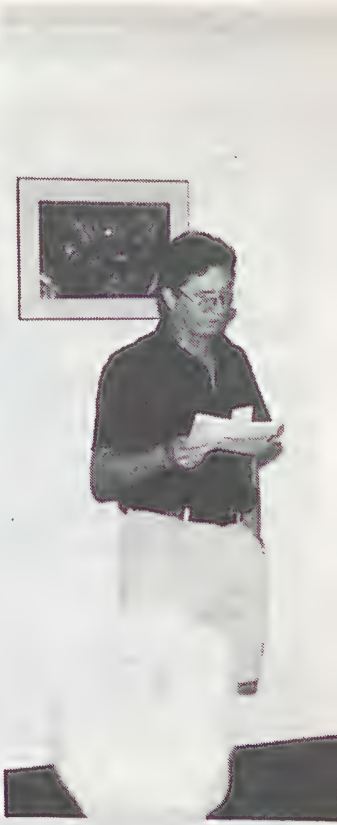
3. Prize for the best oral presentation by an Honours student.

Posters will be assessed during the dedicated poster session and must be attended by the author, who will explain the presentation and field questions. There will be no oral sessions concurrent with the poster session. The Honours prize was felt desirable because for a number of years members have felt that recent Honours graduates are less experienced at oral presentations and are therefore disadvantaged compared with other graduate students who have nearly completed their research. We hope this prize will encourage recent Honours graduates to attend Congresses and share their results with other members of ASL.

To be eligible for a student prize, students should be current, financial members of ASL, and must give their presentation within 18 months of receiving their degree. This "18 month rule" may be varied if successive Congresses are more than one year apart (so for 1994, 18 months is it!). The student prizes will be judged by a committee or committees convened by the ASL Executive at the Congress. Wherever possible, such committees will not contain supervisors of or co-authors with candidates for the prizes.

QUEENSLAND CONFERENCE CAPERS AND HIJINX

A photo essay by Margaret Hart



MUSIC FOR MILLIONS

ANNOUNCEMENTS ETC

WAITING WITH BAETID BREATH (Part II)

Is your *BAETIS* REALLY *BAETIS*? How about those well known Baetid genera *Cloeon*, *Centroptilum* and *Pseudocloen*, do they really exist in Australia?

A letter (the type of letter all invertebrate workers like to get) has been received from Phil Suter. In part, it states:

"As you may be aware, I have recently received a small grant to study the Australian Baetidae (Ephemeroptera) from the Australian Biological Resources Study (ABRS). Initially the project was to establish the generic status of the Baetidae, but [... something about not enough money ...] and so I wish to obtain as much material as possible from already established collections, and catelogue and establish the extent of the generic problem. Where possible I will start the generic classification once I have viewed available material and the types.

The purpose of this letter is to request the loan of any material that you may have of nymphs and/or adults of any genus in the Baetidae, and which I may use in this project."

If you really want to find out the answers to the questions posed above, then send any Baetid material that you may have to Phil. Support Australia Post by sending large parcels to the Australian Centre for Water Quality Research, Private Mail BAg, Salisbury, South Australia 5108. He can also be contacted for further details on (08) 2590336 or FAX (08) 2590228.

SHOCK! HORROR! A JOB IN LIMNOLOGY!

A position will soon become available at MDFRC (Albury, NSW) for someone to work on a LWRRDC grant on plant decomposition in wetlands. The position will be available for two years, starting July 1993 and pay around $25-30,000 per year (salary details to be finalized soonish). The person will work with me and two technicians (Alison Mitchell and Colin Payne). There will be lots of field work in the wetlands at Ryans Billabong (Albury) and Rafferty's Swamp (Shepparton), with some trips to Bool Lagoon (SA) and perhaps the wetlands at Armidale (NSW). Besides the field work, you will have to learn gas chromatography techniques, figure out the personality quirks of oxygen electrodes, and generally have some grasp of techniques used in chemical ecology. We might also dabble a bit with radioisotopes (^{14}C). Given the Principle Investigator (PIB) is a luddite with

computers, some idea of statistic, graphic and spreadsheet packages (IBM) wouldn't go astray. Last of all, you need a huge sense of humour to work on this topic, and an unquenchable capacity to drink lots of red wine (the later requirement is especially necessary for field trips to Bool Lagoon). Ring Paul Boon at (060) 431002 or fax on (060) 431626 for more details.

PROPOSED SPECIAL ISSUE IN AUSTRALIAN JOURNAL OF MARINE AND FRESHWATER RESEARCH ON PLANTS AND WETLAND PROCESSES

We are inviting interested people to contact us regarding a Special Issue in the *Australian Journal of Marine and Freshwater Research*, dealing with the general topic "Plants and wetland processes". The Boolean operator *and* means the papers must deal with some botanical aspect of wetland ecology. For a Special Issue we need between 8 and 30 papers, and we are hopeful that Australian limnology has sufficient plant-type people to generate such. We anticipate the timetable for the Special Issue to be as follows: within a month, you tell us of your intention to submit a contribution. A month later you submit an Abstract, so we can gauge the variety of topics covered and attempt to fill the major gaps that remain. The final manuscript must be with the editor(s) by the end of November 1993. The closing date will be adhered to rigorously, so we do not anticipate lengthy delays in publication. If you require more details contact either Margaret Brock (University of New England, Armidale: phone (067) 732578, fax (067) 733283) or Paul Boon (MDFRC, Albury: phone (060) 431002, fax (060) 431626).

Paul I Boon, Albury

UPCOMING CONFERENCES

The 10th Symposium of the International Association of Astacology, IAAX, will be held in Adelaide from 10-15 April 1994. The IAA was established 25 years ago to promote the study of fresh water crayfish; it takes it's name from the European crayfish genus, *Astacus*. The IAA has a membership of about 300 including people from government agencies interested in environment and conservation, fisheries agencies, university academics, individuals and companies involved in freshwater crayfish aquaculture and others who just like to learn about crayfish. Most of its' members are from Scandanavia, Germany, France, Great Britian and North America, parts of the world where there are long traditions of using and studying fresh water crayfish. The IAA has always been interested in applied aspects of crayfish biology such as aquaculture, especially of *Procambarus clarkii*

the red swamp crayfish of Louisiana, and *Astacus astacus* the noble crayfish of northern Europe, and disease, especially understanding the spread of the crayfish plague fungus in Europe. In recent years IAA has learned about Australian crayfish, especially *Cherax destructor* (yabbies), *C. tenuimanus* (marron) and *C. quadricarinatus* (redclaw), from people such as Noel Morrissey, Robin Hutchings, Alistair Richardson, Tony Sokal, Chris Austin, Don Fielder, Clive Jones, Malcolm Thorne, Richard Musgrove and myself who have given papers at IAA Symposia. IAA members are very keen to come to Australia and see our crayfish and our industries first hand.

We are expecting about 80 delegates from overseas and about 40 Australians to register for IAAX. In addition there will be many accompanying persons. The Symposium is to be held at the Ramada Grand Hotel on the beachfront at Glenelg. The Grand offers first class accommodation and excellent meeting facilities; it is also well placed for social and leisure activities with the beach restuarants pubs and shops nearby. The meeting will begin with a cocktail supper reception and other social functions include a half-day tour of a yabbie farm and wineries with dinner at McLarenVale and an informal dinner at the new Aquatic Research Laboraties at West Beach. Scientific sessions and posters will be presented over three and a half days and will include about 60 papers. The session themes will include systematics, biogeography and translocations, ecology, physiology, behaviour, immunology and disease and aquaculture. We expect a large number of aquaculture related papers and intend to have all day Thursday 14th as an aquaculture day. Beyond the formalities of the meeting, one of the most valuable and interesting aspects will be the opportunity to meet others with similar interests from throughout Australia and all over the world.

If you wish to obtain more information about the IAAX Symposium, please contact me. Registration Forms are available and the registration date is 30 November 1993. You do not need to be a member of IAA to come to the Symposium, though it will be a chance to join, get the reduced registration rate and be in touch with freshwater crayfish activity throughout the world.

Dr Mike Geddes
IAAX Symposium Organizer
Zoology Department
University of Adelaide
South Australia 5005

Phone (08)3035934 FAX (08) 3034364

Australasian Society for Phycology and Aquatic Botany. XIth Conference to be held on Rottnest Island, Western Australia on Thursday 3 and Friday 4 February 1994. Contact

Dr. John Huisman, School of Biological and Environmental Sciences, Murdoch University, Murdoch, WA 6150.

12th International Symposium on Chironomidae will be held from the 22-26 January 1994 at the CSIRO in Canberra. A major symposium on everybody's favorite invertebrate. Why not come along and find out that there's more to these cute little *non-biting* midges than taxonomic nightmares and poorly substantiated claims about their use in biomonitoring? Contact Dr. Peter Cranston, Division of Entomology, CSIRO, PO Box 1700, Canberra, ACT 2601. Ph (06) 2464282 or FAX (06) 2564000 or E-mail petercr@ento.csiro.au.

Water Conference possibly organised by IPENZ (the brochure doesn't say who is actually organising it, or what IPENZ stands for, but it seems to be the new name for NZIE - the New Zealand Institution of Engineers), between 29-31 August 1994 at Waikato University, New Zealand (with New Zealand written in hand on the brochure). The theme is the implementation of the New Zealand Resource Management Act 1991 and the progress being made in the "stewardship of the nation's water resources." Contact Water Conference 1994, PO Box 4168, Hamilton East, New Zealand or FAX (07) 8384058 - a New Zealand FAX number, we assume (hope the conference is better organised than the brochure!).

Ecological Society of Australia Meeting, Alice Springs 25-27 September 1994. As part of the ESA's next meeting (including specialist symposia and an open forum for all sorts of ecological research) there will be special symposium to commemorate the Horn Scientific Exploring Expedition of 1894. A special focus will be on the "changes that have taken plance in the landscape and human ecology of the region in the 100 years since that time". Enquiries to: Steve Morton, CSIRO, PO Box 2111, Alice Springs, NT 0871; fax (089) 52 9578.

Disinfection of Potable Water: the total spectrum, 13-18 March 1994, Kruger National Park, South Africa. Contact "Disinfection Conference" Rand Water Board, PO Box 1127, Johannesburg 2000, South Africa; fax +27 11 682-0444; phone +27 11 682 0911.

International Conference on Tropical Limnology in commemoration of the 65th anniversary of the Ruttner-Thieneman Limnological Sunda Expedition, 4-8 July 1994, Salatiga, Central Java, Indonesia. A conference on tropical limnology aimed to increase international co-operation in this area. The Austrian Academy of Science, University of Vienna, and University of Helsinki are collaborating with the Satya Wacana Christian University in organising this conference. Contact: Faculty of Science and Mathematics, Satya Wacana Christian University, JL. Diponegoro 52-60, Slatiga 50711, Indonesia; fax (0298) 81420; phone (0298) 81362.

Sixth International Symposium on Regulated Streams (SISORS II), 3-6 August 1994, University of South Bohemia, Ceske Budejovice, Czech Republic. Contact: Professor G.E. Petts, Department of Geography, University of Technology, Loughborough, Leicestershire, LE11 3TU, UK; fax +44 509 262192.

BOOKS (New and Reviewed)

B.V. Timms, Lake Geomorphology, Gleneagles Publishing. rrp.$27.50 plus $3.50 postage and packing.

Reviewed by: Lesley Hodgson, Department of Geography, University of Melbourne.

[Lesley Hodgson is a postgraduate student. She is currently researching the hydrology of the Lake Wellington Catchment, (part of the Gippsland Lakes Catchment in Victoria), in particular, recharge processes in the catchment in relation to salinity problems.]

There are numerous geomorphology texts around, all of which allow too little space for the topic of lake geomorphology, so I was delighted to receive a copy of a book to review devoted to lake geomorphology, particularly as it was filled with Australian and New Zealand examples. The book follows the classical morphogenetic approach, somewhat unusual these days when process studies dominate. However an understanding of how lakes are formed can facilitate further studies of hydrological and limnological processes within a lake.

The introductory chapter does not provide a clear definition of the term "Lake" and I was unsure whether the author had a problem with the physical definition or with semantics. In this chapter the classification of lake types is discussed at length although it took some searching to find the classification system the author was using and he is not clear in explaining his choice. A summary diagram of this in the introductory chapter would certainly have helped.

There will always be problems of with the classification of natural systems, as the author depicts and, while he explores these problems he is inconclusive, which may confuse readers unfamiliar with the subject. It would have been preferable to discuss these issues in a concluding chapter, which the book lacks.

But, the limitations of the introductory chapter should not detract readers from the main body of the book which is systematically divided into chapters focusing on the author's morphogenetic classification. This includes tectonic lakes, volcanic lakes, lakes caused by landslides, glacial lakes, fluvial lakes, solution lakes, aeolian lakes and coastal lakes. The

author cites hundreds of examples of lake types, principally from Australia and New Zealand, obviously reflecting his own considerable experience in this subject. This was wonderful and reading it made me want to visit the lakes described. His extensive use of these examples makes this book ideal for undergraduates as it provides an insight into the variety and complexity of lake types, and in only a small part of the world. However, for those unfamiliar with the field of geomorphology it may be necessary to have a copy of the Dictionary of Physical Geography on hand to help explain the numerous geomorphological terms presented. The extensive bibliography would enable readers to follow-up with more detailed studies of should they require it. The diagrams are excellent although in some cases description of the processes of lake formation are confusing and additional diagrams would have helped.

Priced at $27.50, the book is of very good value, not only for undergraduates but for all people who work near, on or in lakes.

Ponde, the Murray Cod by Phil Cadwallader with illustrations by Andrew Plant, Murray Darling Basin Commission, Canberra, Australia. 16 pp, soft cover, 2 colour pen and ink illustrations.

"Ponde, the Murray Cod" is written for upper primary and junior secondary children to provide them with an understanding of some of the great changes which have taken place in Australia's rivers. In this story ("written in an easy to read style with clear illustrations" according to the advertising blurb), the human induced changes which have taken place in and along the Murray River are described, particularly as they relate to their effects on Ponde (pronounced "pon-dee", the word often used by Aborigines along the Murray when referring to the Murray Cod), a large old cod who has lived in the river for some 70 years.

Published by the MDBC as a part of its ongoing commitment to promote public understanding and discussion of natural resource management issues int he Murray-Darling basin, it is an addition to their native fish awareness packages which include the Native Fish Management Plan, videos, regular video updates, posters and stickers.

So, if you want to start the indoctrination ... er ... education of children at an early age about rivers and the changes that have occurred in them, "Ponde, the Murray Cod" is available from bookshops, particularly those specialising in children's and natural history books, and by mail order from the Gould League. By mail order, the price is $7.95 each plus $4.00 for postage and handling for orders up to $50.00 ($8.00 for orders between $51-100). Contact the Gould League, PO Box 446, Prahran, Vic 3181, ph (03) 5101493 or FAX (03) 5211217 for further details.

CONFERENCE AND OTHER REPORTS

Third Wetlands Workshop, Armidale

Jane Roberts, Griffith, NSW

Newholme, a scenic rural property owned by UNE about 6 km north of Armidale, nestling amongst craggy hills of the northern tablelands, was the venue for the 18 participants in the Third Wetlands Workshop. This workshop was hosted by Margaret Brock who planned it to be field-oriented, with the New England tableland lagoons as the bait. But things were not to be.

Arriving late (my excuse is the ASL One-day Caloola Feild Trip, which can only be described as wetland balm to those of us working in highly disturbed systems) I found I had missed an evening long debate about science and management. This debate continued over the next two days, at night, over meals, and as an unscheduled brain-storming session about the expectations scientists and managers have of each other.

As the impromptu facilitator, I wanted to draw out the differences between these two cultures and so highlight the difficulty of delivering adequately to both, but was only partly successful. One or two wanted to rush into solutions but the mass of feeling was that it was too early, we had in fact only just scraped the surface of the problem. Added to this was the unrepresentative composition of the group, strongly biased towards scientists but the resource managers were a vociferous pair! The important points are summarised by Geoff Smith.

Not even the brilliant New England sunshine, nor the prospect of wetlands with definable edges and no dam upstream could hold back the tide of discussion: experimental design and the purpose of experimentation and are the data useful on the shores of Llangothlin lagoon; management issues in the Maquarie Marshes in the vehicles; sampling routines and when to stop on the back lawn of the Botany Department; a synthesis of Why Methane is Important; approaches to estimating water requirements with case histories from Bool Lagoon and, last thing at night, the Gwydir Valley; management options chosen by NPWS for Mother of Ducks Lagoon in their attempt to conserve some habitat for migrating Japanese snipe.

The New England tableland lagoons are certainly very different from what I'm used to seeing. They are high, so it's cold which must affect all temperature dependent processes such as bacterial (but especially methanogens!) activity and germination for some species, as well as shorten the growing season in a predictable way (but are they seasonal?). They are discrete, rather than interconnected. They seem remarkably resilient to changes in

landuse. Some of the plant species there also occur in floodplain wetlands in low-lying, semi-arid western New South Wales!

MANAGEMENT AND SCIENCE, THE DYNAMIC DUO.

Geoff Smith, UNE, Armidale

At the recent 3rd Wetlands Workshop in Armidale, New South Wales an impromptu discussion arose concerning links and the relationship between environmental managers and scientists. The format of the discussion was based on what environmental managers expect from scientists and what scientists expect from managers. The following outlines points raised in the discussion in the hope that some constructive connections may be inspired.

Generally, environmental managers would like to see more input by scientists into management processes. Naturally this included more information about ecosystem functioning and the likely effects of anthropogenic activities. Input in the form of expert opinion at the decision making level was thought by managers to be an area where scientists had more to offer. Scientists could provide more feedback into environmental assessment through avenues for public participation. Most would agree scientists working in particular areas and ecosystems are among the most qualified persons to make judgements (informed guesses?) about the implications of management decisions. That scientists are reluctant to make such inputs may show a lack of recognition of the constraints on or needs of management, or may be a reflection that political agendas and social constraints are often not well defined for scientists. This was a major area of difficulty. Managers thought scientists should offer opinions with appropriate qualifications due to uncertainties that may exist, but scientists were reluctant because of doubts about the appropriate use or misuse of information.

Scientists felt a need for respect of their independence and recognition of scientific ethos and culture from managers. Scientists thought managers should frame questions in a more solvable, scientifically interesting and properly directed way. That is, to help clarify the question they are asking. A minimum would be the clear statement of management goals and aims. Other difficulties identified by scientists were appropriate time scales for ecological questions and for scientific research. There was concern that generally low levels of biological knowledge amongst management personnel may hinder communication. For knowledge to be of maximum benefit (widely applicable) there must be an understanding of processes not just obtaining of endpoints. Current funding time frames and associated research priorities tend to be short term and shift too quickly to allow lines

of research to be developed properly. There was also concern amongst scientists that information and ideas were not accredited or were inappropriately interpreted and used, or perhaps most disheartening that information would be passed over or ignored for political reasons. This gave rise to questions of the monetary value of scientific information and issues of intellectual property rights.

How can scientists disseminate information quickly to managers while maintaining rights and the many other responsibilities they have? Time surfaced as a critical issue. Highly trained and experienced managers and scientists who could be researching, teaching and managing were engaged in administrative activities that could be better organised or performed by support staff.

We were not the only people interested in these issues. Emeritus Professor Nancy Millis recently urged scientists to pursue fundamental research. While research had been successfully applied in industries such as agriculture and mining a coordinated policy approach is still lacking. She used catchment management as an example; attributing the poor state of knowledge (and the subsequent poor quality of advice from scientists) to short term economically driven research funding (Richardson, J. 1993 *Campus Review* 3:12,6).

The relationship between scientists and managers is critical in environmental management: managers with hands on the levers and scientists trying to find out what the levers do. The potential for increased cooperation is obvious, looking for local opportunities for greater input from both sides and also talking to politicians about appropriate policy and administrative frameworks for effective research and management.

RIPARIAN ZONES IN ART: PERSPECTIVE OR RETROSPECTIVE

Margaret Brock, Botany UNE Armidale.

After three consecutive meetings in April, Riparian Zones, ASL and a Wetland Workshop in Armidale, I found myself in the New England Regional Art Museum looking for the balance of a different culture. There I found an exhibition on "Rivers in Australian Art" a combination of the National Bank travelling exhibition and river paintings from the locally housed Hinton Collection. What better place to form both an historical and cultural impression of what rivers have meant to Australians and to examine the river banks (at least in the art of the more realistic artists) to get an idea of just how prevalent river bank modification was a century ago.

I asked myself a handful of questions: Were riparian zones depicted? How much native vegetation could be detected? How important were exotic species? Which ones could be recognized? How many had willows? What is the earliest date? What signs of bank modification are obvious; bank beautification, access, plantings, erosion, exotic species? How do modern representation of river banks compare with those of first half of this century?

Of the 42 or so paintings 7 had no river edges and 5 with edges didn't have an interpretable riparian zone. Of the 30 paintings with an identifiable riparian zone, 8 were painted between 1894 and 1945 and 22 since 1988. Most of the early group depicted rivers in Victoria and New South Wales whereas the modern group also included rivers from inland Australia and the north.

The earlier artists were intent on recording the taming of our rivers for human uses. Most depicted clearing or modification by planting or waterfront development. Tom Roberts in 1894 depicted urban waterfront development with stone wall bank reinforcement rather than vegetation. Arthur Streeton in 1896 showed cleared river banks with all but the tallest Eucalypts removed. Erosion and bank slumping are evident and about a third of the bank has exotic tree species probably willows or poplars. The most complex natural riverine vegetation is shown in Reid's 1900 painting in which I could identify water lilies, emergents and Casuarinas together with cattle on the riverbank. I wonder what it looks like 90 years later? The paintings of the 1920's,1930's and 1940's continue to portray scenes of clearing, exotic planting, and urban development.

I found more natural vegetation in the modern group of paintings. Does this reflect a heightened sense of the value of natural river systems? The rivers with natural vegetation in their riparian zones were from the inland and north; Mootwingee, Finke River and Alligator River. Even though grazing effects from cattle and buffalo could be identified in some of these paintings they represented a stark contrast to the pollution, urban development, clearing and exotic species represented often in stark abstract ways in the other modern paintings. I wonder if this modern comment tells us that we have changed the rivers in our highly populated areas too drastically and that our society is ready to admit some of its mistakes.

The riparian zone issues recently identified by scientists and managers are clearly depicted in some of this art. The processes of change by erosion and deposition operate at many scales; from geological time (millions of years),to times since human influence; from the earliest occupation more than 40,000 years ago to the relatively recent influences of European settlement in the the past 200 years. Superimposed on this are the cyclic changes both seasonal and aseasonal where we see rivers fluctuate in flow levels. To me the most striking features exibited in this range of paintings are those related to the European human need to modify river banks to mimic familiar highly modified Northern

hemisphere river environments. Our early acclimatization societies may have answer for that but we are the generation that needs to change cultural perceptions. Is it possible that the next generation of "Rivers in Australian Art" may indicate a more comprehensive set of values for of our running waters which comprise a minimization of degradation and a maximization of management for ongoing uses. Whatever the future, here is a source of documentation of changes in both reality and perception.

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CHILDREN'S PAGES

Mystery of the missing Editors' CRC Wine Sub-program solved!!

Assiduous readers of the ACT portion of the scuttlebutt section of the newsletter will be aware that a certain CRC for Freshwater Ecology got the nod. Our intrepid editors were horrified to find that their Coonawarra and Margaret River sub-program *did not get a mention in the Minister's press release*. Sceptics have said that this could have arisen because said editors didn't actually submit the sub-program in time for inclusion in the CRC proposal. However, this following extract from an ASIO tape suggests that the editors were working on an alternative hypothesis. We join them in an obscure cellar in the Tamar Valley.

Ed 1: Look if it's red, Tasmanian and not a pinot, don't touch it!

Ed 2: Why?

Ed 1: Got as much "oompfh" as a cheer squad for John Hewson after an election.

Ed 2: Ow, that's low, and unjust - about Tasmanian cabernets I mean. Look at this wine atlas here: it has lots of nice things to say about cabs from the ...

Ed 1 [*becoming distracted by an index entry in the proffered tome*]: Hey! Look at this!

Ed 2: What?

Ed 1: See that name? *Lake's Folly*!!

Ed 2: So?

Ed 1: Our wine sub-program for the CRC! That's why it didn't get up! One of them was already in the industry!! The bugger didn't want competition from inside The Organisation. Of course! Why didn't we think of that before?

Ed 2: I see! Oooo the double-crosser! How dare he? He was once our supervisor too!!

Ed 1: Bastard! Cross him off the chrissie card list.

Ed 2 [*riffling through pages of wine atlas*]: But you don't send any christmas cards. Look! Here he is again: Lake*wood*!

Ed 1: Sneaky! Picking up on the cheap end of the market as well. And I'll bet there are others too! Look here, there's *Cullens* in the Margaret River ...

Ed 2: The top man in on it too, and at premium prices ... wait 'till I tell *Background Briefing* ...

Ed 1: Look, nobody listens to Radio National except you and Robyn bloody Williams ...

Ed. 2: And see here: *Mitchell* in the Clare Valley.

Ed. 1: Lowlife!! And he told us he was from Zimbabwe. I'll be he's mixed up in Mitchell*ton*, eh?. While we're in that neck of the woods, are there any Boons, Shiels, Hillmans, Hawkings or Olivers in that book?

Ed 2: Isn't there an *Olivier* somewhere?

Ed 1: Yeah, in France ya nong. But I suppose you could have a point: the conspiracy could be going offshore too. What do you know about Chilean wine companies?

Ed 2: The Melbourne connection, or should I say the Rutherglen connection is here: *Campbell's*.

Ed 1: First against the wall come the revolution! Pity, I liked his tokay. But while we're in Rutherglen: *Morris*! He's just changed the first letter in his name from an *N* to an *M*! And he thought he could slip that one past us! Ha!

Ed 2: Well he has hasn't he? Slipped right on past us. He's got CRC money *and* a winery. And what have *we* got then?

Ed 1: Hmm ... a nice looking case of a very promising unwooded chardonnay over there if we're quick about it. Where's that pinch bar?

[*Sounds of pinch bar against door are rapidly drowned out by approaching police car siren, slamming doors, running feet, scuffles, and language too rude to print in a family publication like this one*].

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